CLAIMS

What is claimed is:

1. A biological sample processing system, comprising: a laminated film sample processing device including a reaction chamber mated with a biological sample carrier to form a fluidic circuit.

2. The biological sample processing system of claim 1, wherein said laminated film sample processing device includes an extraction chamber.

3. The biological sample processing system of claim 1, wherein said laminated film sample processing device includes a dilution chamber.

4. The biological sample processing system of claim 1, wherein said laminated film sample processing device includes a pump.

5. A fluidic circuit, comprising:

a reaction chamber;

a sample carrier mating surface coupled to said reaction chamber; and

a conduit coupled to said reaction chamber.

6. The fluidic circuit of claim 5, wherein said conduit is a capillary that can impart capillary flow forces to a fluid drawn from said reaction chamber.

7. The fluidic circuit of claim 5, further comprising a microdissected transfer film carrier mated to said sample carrier mating surface.

8. The fluidic circuit of claim 5, further comprising a dilution chamber coupled to said conduit.

9. The fluidic circuit of claim 8, further comprising an exit capillary coupled to said dilution chamber.

10. The fluidic circuit of claim 5, further comprising another conduit coupled to said reaction chamber.

11. The fluidic circuit of claim 10, wherein said another conduit is another capillary that can impart capillary flow forces to a fluid that is driven to said reaction chamber.

12. The fluidic circuit of claim 11, further comprising a fill port coupled to said another capillary.

13. The fluidic circuit of claim 5, further comprising a pump.

14. A method of processing a biological sample, comprising:

providing a sample carrier with a biological sample; and

mating said sample carrier to a laminated film sample processing device having a reaction chamber to form a fluidic circuit,

wherein said biological sample is positioned within said reaction chamber.

15. The method of claim 14, wherein providing said sample carrier with said biological sample includes providing a microdissected transfer film with a laser capture microdissected sample.

16. A microdissected sample extraction device, comprising:

a fill port defined at least in part by a middle laminate layer and a bottom laminate layer;

a fill port-to-reaction chamber capillary coupled to said fill port, said fill port-to-reaction chamber capillary defined at least in part by said middle laminate layer, said bottom laminate layer and a top laminate layer, said fill port-to-reaction chamber capillary defining a middle stop junction that extends through said top laminate layer;

a spacer coupled to said top laminate layer, said spacer including a microdissected sample film carrier mating surface;

an reaction chamber coupled to said fill port-to-reaction chamber capillary through said middle stop junction, said reaction chamber defined at least in part by said top laminate layer and said spacer; and

an reaction chamber exit capillary coupled to said reaction chamber, said reaction chamber exit capillary defined at least in part by said middle laminate layer, said bottom laminate layer and said top laminate layer, said extraction chamber exit capillary defining a second stop junction that extends through said top laminate layer and couples with said reaction chamber.

17. The microdissected sample reaction device of claim 16, further comprising

another spacer coupled to said top laminate layer, said another spacer including a top surface;

a dilution chamber coupled to said reaction chamber exit capillary through a third stop junction defined by said reaction chamber exit capillary, said dilution chamber defined at least in part by said top laminate layer and said another spacer;

a dilution chamber exit capillary coupled to said dilution chamber, said dilution chamber exit capillary defined at least in part by said middle laminate layer, said bottom laminate layer and said top laminate layer, said dilution chamber exit capillary defining a fourth stop junction that extends through said top laminate layer and couples with said dilution chamber.

18. The microdissected sample reaction device of claim 17, further comprising a dilutent composition located in said dilution chamber.

19. The microdissected sample reaction device of claim 16, further comprising an extracting composition located in said fill port.

20. The microdissected sample reaction device of claim 16, further comprising a reactant composition located in at least one of said fill port, said fill port-to-reaction chamber capillary, said reaction chamber, and said reaction chamber exit capillary.

21. An apparatus, comprising: a multiple step fluidic device for microdissected samples, said multiple step fluidic device including a transfer surface and a surface that is spaced apart from said transfer film so as to define a fluid volume, said surface being connected to an exit stop junction that functions as an exit port for a reaction buffer.

22. The apparatus of claim 21, further comprising a spacer located between said transfer film and said surface.

23. A method, comprising:

providing a multiple step fluidic device for laser capture microdissection, said multiple step fluidic device including i) a transfer film to which a portion of a sample is adhered and ii) a surface that is spaced apart from said transfer film so as to define a fluid volume, said surface being connected to an exit stop junction that functions as an exit port for a reaction buffer;

contacting said portion with said reaction buffer; and then

removing said reaction buffer from said fluid volume.

24. The method of claim 23, wherein removing includes centrifuging said multiple step fluidic device so as to remove said reaction buffer from said fluid volume.